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Seepage consolidation of elastic half-space under an axisymmetric load

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Abstract

© 2014, Pleiades Publishing, Ltd. The process of seepage consolidation of elastic saturated half-space under the action of a normal load on its surface is investigated assuming both incompressibility of fluid and skeleton grains and independence of the total skeleton stresses on time. Analytic representations for the fluid pressure and the half-space surface settlement are found when the half-space is loaded by a concentrated force. The maximum settlement is also found for a uniform loading of the surface over the circle area.

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Keywords

consolidation, elastic half-space, load, pressure, settlement